

LISTING OF CLAIMS:

The present listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) An alarm unit incorporated in an electric system to which a power voltage is supplied, the alarm unit comprising:

a first voltage evaluation circuit, which determines whether or not the power voltage is lower than a first predetermined voltage and outputs a first accident state signal when the power voltage is lower than the first predetermined voltage, the first voltage evaluation circuit being operable only when the power voltage is higher than a second predetermined voltage, the first predetermined voltage being higher than the second predetermined voltage;

a second voltage evaluation circuit, which determines whether or not the power voltage is equal to or lower than the second predetermined voltage, and outputs a second accident state signal when the power voltage is equal to or lower than the second predetermined voltage, the second voltage evaluation circuit being operable when the power voltage is between a third predetermined voltage and the second predetermined voltage, the second predetermined voltage being higher than the ~~first~~ third predetermined voltage; and

an output circuit, which outputs an alarm signal in response to either of the outputted first or second accident state signals.

2. (Currently Amended) A sensor unit incorporated in an electric system to which a power voltage is supplied, the sensor unit having a sensor circuit sensing a physical quantity to output a sensor signal responding to the sensed physical quantity, comprising:

a first voltage evaluation circuit, which determines whether or not the power voltage is lower than a first predetermined voltage and outputs a first accident state signal when the power

voltage is lower than the first predetermined voltage, the first evaluation circuit being operable only when the first power voltage is higher than a second predetermined voltage, the first predetermined voltage being higher than the second predetermined voltage;

a second voltage evaluation circuit, which determines whether or not the power voltage is equal to or lower than the second predetermined voltage, and outputs a second accident state signal when the power voltage is equal to or lower than the second predetermined voltage, the second voltage evaluation circuit being operable when the power voltage is between a third predetermined voltage and the second predetermined voltage, the second predetermined voltage being higher than the third predetermined voltage; and

an output circuit, which outputs an alarm signal in response to either of the outputted first or second accident state signals.

3. (Previously Presented) A sensor unit as claimed in claim 2, wherein the output circuit outputs

a sensor output signal depending on a the sensor signal outputted from the sensor circuit when the power voltage is over the first predetermined voltage, and

outputs the alarm signal in place of the sensor output signal in response to an output of either of the first or second accident state signals when the power voltage is equal to or below the first predetermined voltage.

4. (Previously Presented) A sensor unit as claimed in claim 2, wherein a voltage of the alarm signal is set to be higher than a maximum voltage of the sensor output signal, the voltage of the alarm signal having a predetermined margin over the maximum voltage.

5. (Previously Presented) A sensor unit as claimed in claim 3, wherein the sensor unit further comprising a clamping circuit for clamping a voltage of the sensor output signal at a voltage level distinguished from a voltage of the alarm signal.

6.(Previously Presented) A sensor unit as claimed in claim 5, wherein the voltage level distinguished from the voltage of the alarm signal is set to be lower than the voltage of the alarm signal with a predetermined margin.

7. (Previously Presented) A sensor unit as claimed in claim 5, wherein the clamping circuit is configured to freeze an operation thereof if either of the first or second accident state signals is outputted from the first or second voltage evaluation circuit, respectively.

8. (Previously Presented) A sensor unit as claimed in claim 3, wherein the voltage of the alarm signal is a divided voltage produced by dividing an output voltage of a stabilized power supply independent from the sensor unit by a resistance ratio between a pull-up resistor and a dividing resistor of the output circuit, the pull-up resistor being configured to connect a signal line of the output circuit and the stabilized power supply.

9.(Previously Presented) A sensor unit as claimed in claim 7, wherein the voltage of the alarm signal is a divided voltage produced by dividing an output voltage of a stabilized power supply independent from the sensor unit by a resistance ratio between a pull-up resistor and a dividing resistor of the output circuit, the pull-up resistor being configured to connect a signal line of the output circuit and the stabilized power supply.

10. (Previously Presented) The alarm unit as claimed in claim 1, wherein the first voltage evaluation circuit

compares a monitoring voltage that depends on the power voltage with a reference voltage that is independent of the power voltage, and

judges that the power voltage is lower than the first predetermined voltage when the monitoring voltage is lower than the reference voltage.

11. (Previously Presented) The sensor unit as claimed in claim 2, wherein the first voltage evaluation circuit

compares a monitoring voltage that depends on the power voltage with a reference voltage independent from the power voltage, and

judges that the power voltage is lower than the first predetermined voltage when the monitoring voltage is lower than the reference voltage.

12. (Previously Presented) The sensor unit as claimed in claim 2, wherein the third predetermined voltage is a ground voltage.

13. (Previously Presented) A sensor unit as claimed in claim 2, wherein the output circuit

outputs a sensor output signal depending on the sensor signal outputted from the sensor circuit when the power voltage is over the first predetermined voltage, and

outputs the alarm signal in place of the sensor output signal in response to an output of either of the first and second accident state signals when the power voltage is below the first predetermined voltage and is between the third predetermined voltage and the second predetermined voltage.